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Rail Road News.

Senator Benton's Scheme for a National Highway to the Pacific.

The bill prepared by Senator Benton for a railway from St. Louis to the Bay of San Francisco, sets apart the proceeds of the sales of the public lands for opening such a communication with California, New Mexico, Oregon and salt Lake settlements. A breadth of one mile of the public lands is to be appropriated to the central highway, and one thousand feet to the branch roads, on each of which lines are to be constructed a railroad and common road and lines of telegraph. The common roads to be free of toll and the railroads to be taxed for transportation no higher than is necessary to keep them in repair. The Indian titles are to be extinguished on the routes to the breadth of one hundred miles. Military stations are to be established and 160 acres of land will be given to every male over eighteen years of age, who shall settle on the line of said road or branches within twelve months after the Indian titles are extinguished, and pre-emption rights to the same extent to those who shall afterwards settle. The bill also provides for surveys and examination as to the best route, and for the completion of the common road in one year and the central road in seven years, after located. The use of the railway when finished is to be granted to individuals or companies for a limited time, who shall contract to transport persons, mails, munitions of war, and freights of all kinds public and private in vehicles furnished by themselves at such reasonable rates as may be agreed upon.

General Railroad Law.

A general Railroad Bill has passed the Assembly of New York. The distinguishing feature of the bill is the power which it confers on voluntary associations, technically termed the right of "eminent domain"—that is the power to take the property necessary for their uses, on paying a just compensation, and under stringent regulations, without coming to the legislature for it, or for a declaration of "public utility," in each case where the right of way cannot be obtained by negotiation. In this respect it conforms to the general plank road and turnpike acts. The bill orginated in the Senate, and having been amended in the House goes back to the Senate for concurrence.

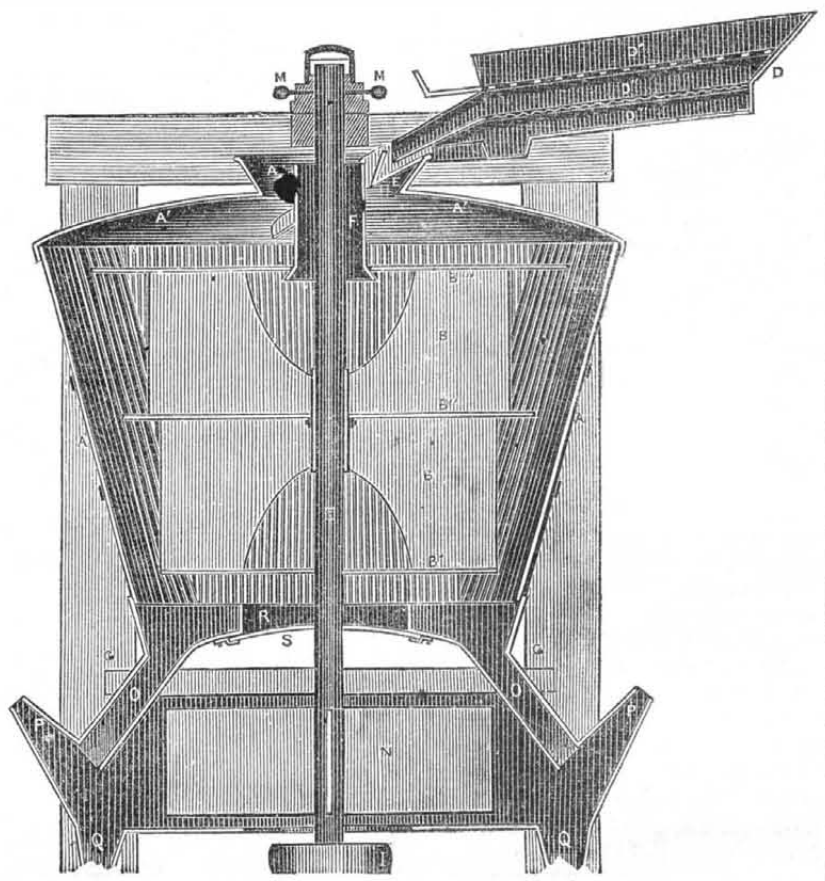
Railroad to the Pacific.

A very large meeting was held at the Chinese Museum, Philadelphia, last week, and passed resolutions favorable to De Grand's scheme for constructing a railroad to San Francisco. Mr. De Grand was there himself and addressed the meeting on the importance and feasibility of the project.

Railroad Experiment.

The Legislature of Virginia, at its recent session, made an appropriation of $10,000 for the purpose of testing the efficacy of an invention, whereby locomotives can be made to ascend and descend inclined planes with little difficulty. The invention is that of Mr. French, of Old Point Comfort.

GOSHON'S IMPROVED SMUT MACHINE.---Figure 1.

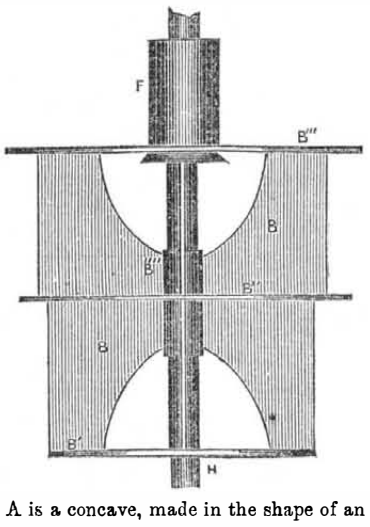


This improved Smut Machine is the invention of Mr. Joseph G. Goshon, of Shirleysburg, Pa. Letters patent were granted for it to the inventor on the 8th of last January.

Figure 1 is a vertical section of the machine. Figure 2 is an elevation of the blower and heater. Figure 3 is a plan view of the shoe. Figure 4 is a plan view of a perforated sheet iron grain distributor.

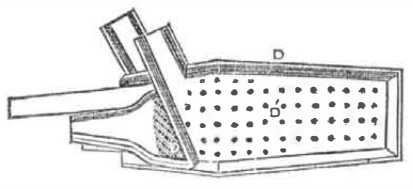
The improvement relates to the construction of the shoe, having a perforated plate for separating large extraneous matters from the grain, with a screen for separating the cockle and cheat, and an imperforated plate, D 1 1 1, to conduct the said impurities to the outside, thereby rendering the machine exceedingly perfect in cleaning the grain. The same letters refer to like parts on all the figures.

FIG. 2.



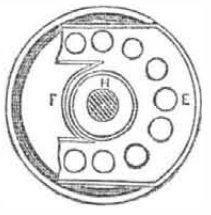
A is a concave, made in the shape of an inverted frustrum of a cone, with its lower end closed by a concave bottom, perforated in the centre, and encircled by a curb large enough to admit air into the interior. O O are two spouts for conducting the grain, &c., to meet the blasts produced by the rotary fan, N,—the dirt, &c., being driven out through the spouts, P P. The cleaned grain descends through the conduits, Q Q. The top, A 1, of the concave, is made spherical, and it has a round central eye encircled by a funnel curb, A 1 1, into which the perforated grain distributer, E, is placed to receive the grain from the shoe, D, from whence it is conveyed to the action of the beaters, B. The shaft, H, and the air-tube, F, pass up through this eye. The sides of the concave are composed of round tapered metal bars, arranged at suitable distances apart, to let the smut be blown through, but not the grain. These bars are held firmly in their required positions. The pitch or incline of the sides of the concave is such that the grain does not fall too fast, to allow free action

FIG. 3.



of the beaters upon the grain, to separate it from tenacious adhering impurities. The revolving beaters and blowers, B, are for beating the grain and throwing it against the sides of the concave as it descends and rebounds towards the centre, and the dust, dirt and all impurities are blown through the spaces between the meshes of the concave, which are composed of radial plates, B, which are secured between the circular plates, B1 B'' B'''. The middle plate, B'', has a round hole in its centre, to receive and retain a small tube, which revolves with the main shaft, H. The

FIG. 4.



upper circular plate has a hole in its centre about three times the diameter of the main shaft, in which is inserted the tube, F. This tube conducts the air to the space between the upper and circular plates, B'' B''', when a partial vacuum is formed by the rapid motion of the radial plates, B, which force the air radially through the meshes of the concave. The tube, R, admits the air through the bottom of the concave.

The inclined vibrating shoe, D, has a perforated plate, D 1, for separating the larger impurities, which drop through the perforations upon a wire screen, D'', and is conveyed away by the large spout, whilst the cheat and cockle pass through the wire screen and is carried away by the spout, the front edge of which is seen in fig. 1. The grain is thus separated of considerable impurities before it enters the concave, which it does by the perforated distributor, E, which is placed in the eye of the dome of the concave for distributing the grain in a circle as it enters the concave, to be acted upon uniformly by the beaters, and the blast, I, is the driving pulley for revolving the shaft; G G is part of the frame. The shaft revolves in a proper step below and in proper guide bearings, set up by the set screws, M M, above.

The arrangement and construction of this machine is very perfect, and it accomplishes its work in the most superb manner—saving every kernel of grain, and separating it from all impurities whatever. More information may be obtained about it by letters addressed (*p. p.*) to the patentee, or to the Northern Patent Agency, No. 2 John st., N. Y.

Useful Receipts.

Detonating Silver

This is made by putting a sixpenny piece into a flask, and pouring upon it one ounce and a half of nitric acid, spec. grav. about 1.35.—When the silver is dissolved, two ounces of spirit of wine are to be added, the liquor is carefully heated over a lamp, and the detonating silver soon appears to be deposited in white crystals. By degrees two more ounces of spirit of wine are added, and when the boiling ceases, the liquor is decanted, and the decanting silver washed by pouring water upon it, and decanting the water several times; it is then to be carefully dried, with a heat not exceeding that of boiling water.

Detonating silver explodes on being exposed to a heat above 266 deg. Fah. or by the slightest shock between two hard bodies: it must therefore be managed with a wooden knife, or one of card paper.

It is used mostly for amusement, but may be applied as an alarm, by a paper or glass bubble containing some of it being placed where a person is suspected of going for improper purposes.

Solder for Silver.

This is made by melting three parts of silver with seven of copper, or four of silver with six of copper.

Silver gilt Plate.

Silver is gilded in the same manner as copper, but with an amalgam of gold.

Nitric Solution of Silver.

This is prepared by dissolving granulated silver in nitric acid, sp. gr. 1.500, diluted with an equal weight of water, until no more silver is taken up.

It is used to prepare the Luner Caustic of the surgeons, and to ascertain the presence of muriatic acid in mineral waters.

The Lunar Caustic.

This mystical phrase merely denotes the salt obtained by evaporating gently the nitric solution of silver to dryness, in a silver vessel, containing the heat until it melts, and when in fusion, pouring it into moulds, or cast it into sticks, the size of the barrel of a common quill.

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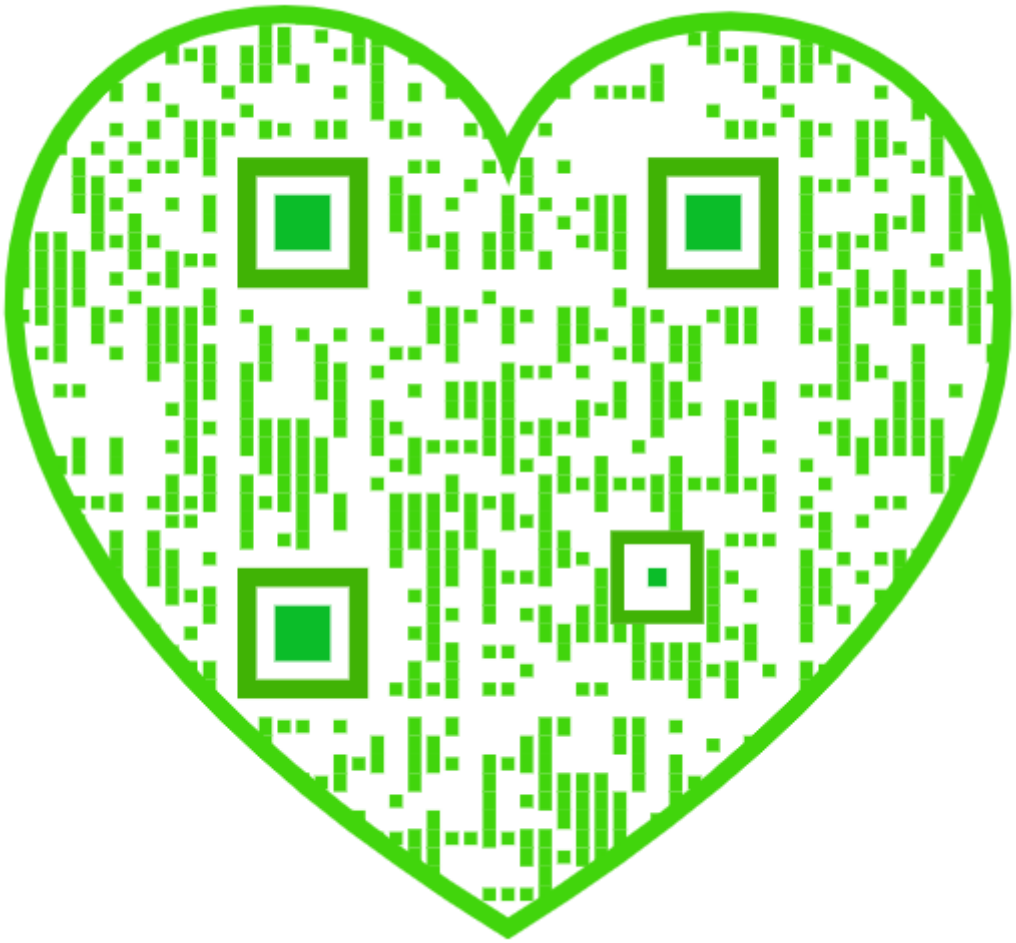

Miscellaneous.

Correspondence of the Scientific American.

WASHINGTON CITY, April 10, 1850.

Mr. Ewbank is still receiving a brisk "fire in the rear" from masked batteries, but he is still in the land of the living. A man without enemies cannot possess much force of character. His nomination will not be acted upon by the Senate for some time, as everything seems destined to "go by the board" until after the adjustment of the slavery question.

Elihu Burritt, the learned blacksmith, is here lecturing on the wonderful effects the magnetic telegraph and steam will have in consolidating all the families of the earth into one universal brotherhood.

The California fever is here as well as elsewhere: a party which includes several members of our Common Council will leave in a few weeks. An engineer named Nourse is going out for the Aspinwalls with a newly invented machine for breaking the quartz rocks, in which the gold is principally found.

The patent metallic bronzed coffin, in which the remains of Mr. Calhoun are deposited, is so much admired that Fisk & Raymond, the patentees, have appointed an agent in this city. It will be recollected that Mrs. Madison was enclosed in one of them.

Mr. Porter has been busily engaged during the past week in endeavoring to get the stock taken up for his California spindle-shaped balloon, but the people seem rather shy of making such an investment. The idea of rushing through the air with the speed of a thunderbolt, is rather startling to many of them. He is about to lecture on the subject with a view of removing such scruples. In the proposed ærial steamer there is to be a saloon 150 feet long and 10 feet wide, made of painted cloth, with a floor of thin boards. About 80 feet of the central part of the saloon is to be furnished with delicate seats for passengers, and to have windows in the sides. In the centre of the saloon is to be the engine room, furnished with two light made steam engines of 10 horse power each. The saloon is to be suspended about 50 feet below the float, being connected thereto by 200 steel rods, of the best material, flattened to prevent resistance, and capable of sustaining 1000 pounds each. Between the float and saloon are mounted two propelling wheels, 40 feet in diameter, and made of light materials. The form of these propellers is to be that of an eight-armed windmill wheel; the sails or fans, when in motion, acting obliquely on the air, which, by re-action, exert a propulsive force on the wheels, thus propelling the whole machine, are to be operated by the steam engines by means of belts or endless chains. To the rear of the float is to be connected a rudder 16 feet long, having four leaves four feet wide, two to be vertical and two horizontal. One edge of each leaf is to be connected with a central stem, so that the direction of the float may be governed both vertically and horizontally. The weight of the saloon, rudder, wheels and supporting rods, is estimated at 3000 lbs., and that of the engines 4000 lbs., thus leaving a balance of buoyancy of 38,414 lbs.—sufficient to carry 200 passengers with their baggage. All this seems very wonderful, but Porter says "strike, but hear."

Members of Congress are anxiously awaiting the arrival of Collin's mammoth steamer, which the proprietor has promised to send round to our port for their gratification. Many of the Western Members have no idea of what an ocean steamer is.

You will perceive that Bulkley has asked Congress to appoint some naval officer to test his invention for extinguishing fires in vessels.

Mr. W. A. Kentish, of your city, the inventor of the Double Safety Anchor, has sent models of it to the Navy Department, hoping that Government will purchase the right to use it.

*

Singular Phenomenon--A Shower of Sulphur.

The passengers and officers on the Peytona, from New Orleans for Louisville, observed a very singular phenomenon as the boat was passing Napoleon, Ark., on Sunday morning the 17th ult. during a shower of rain. The atmosphere was of a muddy yellow color, and the rain had the appearance of liquid sulphur.—The rain as it fell on the deck of the boat left a thick scum like sulphur floating on its surface, a large portion of which was gathered by the passengers forthe purpose of having it analysed. The train was accompanied with much lightning, and at one time the entire horizon was filled with vivid flashes of electricity darting in all directions. In less than fifteen minutes the rain ceased and the skies became bright and unobscured.—[N. O. Picayune.

[The above must have only had the appearance of sulphur. It was probably the yellow dust of some vegetable flower carried up by the whirling wind that generally preceeds a thunder storm.

News from California.

The Cherokee arrived at this port on last Friday, the 4th inst., with $1,658,818 in gold dust, and 81 passengers. The City of Sacramento was relieved from the floods, which at the last accounts had overflowed nearly the whole of it. Three steamers were regularly running on the Sacramento, and new towns were springing up rapidly along its banks. The weather was delightful and the gold hunters were exploring the country in all directions. The "Alta Californian" states that each individual at the mines, during winter, has netted per diem from three ounces to five hundred dollars. They are about to build a railroad from Sacramento City to Coloma.

The floods from the mountains have brought down a great deal of gold to the old placers. The Mormon Territory of Deseret wishes to become part of the State of California. San Francisco is rapidly increasing both in wealth and inhabitants. A piece of lump gold weighing 28 pounds was found at the mines at Stockton. There are now 120,000 inhabitants in California, and the prospect is that there will be as many more by this time next year.

Calico Soirees.

Holden's Magazine gives an account of this interesting fashion, which we commend to the attention of all our people. A model movement in society has been made in the manufacturing town of Fall River, Massachusetts. Some of the wealthy employers and factory owners hold weekly soirees in the town hall, for the benefit of the working classes. These meetings are called calico soirees, because some of the ladies appeared in dresses of that cheap cloth. All classes attended; the rich mill owner, and his poor operatives; the ship-owner and his salors; the mistress and her servants; the shop-keeper and his clerks; the creditor and debtor; the lawyer and client, the preacher and his congregation, the teacher and his scholars. A friend of ours who was present at one, described the scene as very cheering and pleasant, and the effect on all who attended was alike profitable. It took some of the pride out of the upish, and raised the ambition and self-respect of the lowly. He said that the coachman who drove them to the hall, after he had taken care of his horses changed his dress, and came in and mingled with the company without any appearance of restraint or awkwardness. They had music, conversation, and cheap refreshments, and after a lively evening they all retired to resume their accustomed duties and stations the next day.

Paying the British National Debt.

Fourrier was of the opinion, says the Independent, that on the adoption of the Socialist system, the national debt of Great Britain would be easly paid off, merely by the eggs that would be furnished from the phalanste ries. The people were to be arranged in 600,000 phalansteries, and each phalanstery could easly keep 10,000 hens, which would yearly lay 200 eggs a-piece, making 2,000,000 at each station. Multiplying this by 600,000, and calling the eggs worth half a franc per dozen, he found that less than six months would entirely pay off the debt. The only material point omitted was the inquiry where you would find a market for the eggs—ten thousand million dozens!

LIST OF PATENTS

[Continued from page 238.]

I also claim, the wires fastened at one end to the bars or rods, and having the other end bent at such an angle as to enter a slot in or upon the breast beam, when the same is used in connection with the temple, as herein described.

To A. Fessenden, of Boston, Mass., for improved pocket filtering and drinking tube.

I claim the fitting a filter to a tube of greater or less length, substantially in the manner herein before set forth, so that water may be strained by the very act of drinking.

To L. W. Gosnell, of Baltimore, Md., for improvement in Parlor air-heating Stoves.

I claim the combination of the cold air chamber, and valve, with the hot air annular chamber, and the reservoir or chamber, below the horizontal plate, in the chimney flue and behind the recessed fire board, as described, said chamber being provided with an opening, to let the cold air into the annular hot air chamber, and small openings, to let a portion of the cold air into the reservoir, and the valve.

I likewise claim the combination of the hinged water holders, with the recessed fire board, said holders serving the double purpose of evaporator, stands and valves, as described for moistening the air and admitting warm air from the reservoir or space, behind the fire-board or directly into the parlor.

I also claim the arrangement of the valves, in the segmental top of the fire-board, as described, for letting the warm air from the recess of the fire-board into the reservoir, to be conveyed thence wherever described.

[It will be very difficulty to understand this claim. We have left out 180 words not claimed, but paid for.—ED.]

To G. H. Gray, Sen., of Clinton, Miss., for improved Sash Stopper.

I claim the arrangement substantially as herein described and represented, in one compact and connected mechanism of a pair of oppositely acting eccentric tumblers held in contact with the jamb, by a single spring or its equivalent, and both operated by the same key or other usual substitute, and so disposed and constructed as to oppose any attempt (except by one who has control of the catch) to either raise or lower the sash from the position in which it may be placed.

To L. Haversticke of Manortop, Pa., for construction of Drill Teeth in Seed Planters.

I claim the spring coupling constructed and arranged substantially as set forth.

To D. Hicks, of Duncansville, Pa., for improved attachment of the forge-hammer to its helve.

I claim limiting the depth of that portion of the hole in the helve which receives the shank of the hammer and at the same time making the crown solid, excepting a hole of sufficient size through the same to admit of a punch, substantially in the manner and for the purposes herein described.

To J. W. Hoffman. of Philadelphia, Pa., for improved oscillating self-adjusting railroad frog.

I do not claim the application of my frog to any part or place on railroads except simply where the rails cross each other as is always the case at a turnout, neither do I claim as as my invention the action of the car wheels on the arms of my frog.

What I claim is a railroad frog constructed applied and operating essentially in the manner and only for the purpose herein set forth.

To L. Jennings, of New York, N. Y., for improved revolving plats and tumbler lock.

I claim the arrangement of a series of permutation plates in a line and on the same axis of motion, each having a central hole for the reception of the entire key and a projecting tongue for the key to act upon, and a recess or recesses on the periphery for the reception of the tumbler, but this, I only claim in combination with a tumbler attached to and rotating with the cylinder, substantially as herein described.

I also claim making the recesses of the key plates (or the equivalent thereof) of different length but all starting from the same line, substantially as herein described, to facilitate the insertion and removal of the key as described.

I also claim the cylinder which contains the permutation plates and which carries the tumbler as above described, in combination with the permanent flanch enclosing the same and having a recess to receive and hold the tumbler when thrown out, substantially as described.

And finally I claim, the attachment of the eccentric for throwing the bolt with the rotating cylinder carrying the tumbler and containing the permutation plates as described.

Works on Science and Art.

Proceedings of the American Association for the Advancement of Science.

This is a volume of considerable size, containing the transactions of the second meeting of the above Association, held in Cambridge last August, as reported for the Boston Evening Traveller. It is refreshing to take up a work of a scientific nature, which is original in itself, such as this volume. We cannot say this much for the majority of the scientific works published in our country; they are mostly compilations, many of which have brought fame to their authors with very little cost of talent, except a huge developement of the bump of acquisitiveness. This volume contains the papers read upon the various subjects presented to the Association, many of which interested us deeply when first published in the Traveller, and it gave us unbounded pleasure when we heard of their publication in a neat volume—a volume which we recommend to the attention of every man who has the least taste for the solid and true, and who would desire to peruse the emanations of the greatest minds in our country. It is published at Boston and Cambridge, by Jas. Munroe & Co., and is for sale by S. Putnam, No. 155 Broadway, New York.

MARINE AND NAVAL ARCHITECTURE. By John W. Griffiths.—Number 3 of this splendid work, embracing the Theory and Practice blendid in Shipbuilding, by Mr. Griffiths, Marine and Naval Architect, is just issued. It contains a number of excellent plates, and is fully equal to any of the preceding numbers.—This will be a great book when it is completed.

DICTIONARY OF MECHANICS, ENGINE WORK AND ENGINEERING.—Part 7 of this work, published by Messrs. Appleton & Co., edited by Oliver Byrne, contains good engravings of Coining machinery, Dodge's Cop Spinner, Corn Mills; Whitman & Wise's Corn Sheller, and Nevin's Cracker and Biscuit Machine, both pubiished in the Sci. Am., and a number of other machines. This is a very good number.

SYLLABUS OF A COMPLETE COURSE OF LECTURES ON CHEMISTRY: By Prof. Solly.—We are indebted to Mr. John Taylor, No. 123 Nassau street, N. Y., for this most useful volume on Chemistry, being a sketch of the science and its application to the Arts of Mining and Agriculture. It is a text book embracing a classified view of the whole science, and is compendious and minutely accurate. No teacher nor pupil of chemistry should be without it.

Congress.

Our Congress has made slow work of it this Session. Not a Bill has yet been passed.—There is a miserable management somewhere. It is to be hoped that something will soon be done, both for the sake of decency and the benefit of Uncle Sam's children in general.

Remember, in thy feasts, that thou art entertaining *two* guests, the body and the soul. Know, further, that thou squanderest at the moment what thou bestowest on the body, but retainest forever what thou givest to the soul.

The Governor of South Carolina has appointed a committee of twenty five gentlemen to go to Washington, and bring home the remains of Mr. Calhoun.

Astronomers are in a considerable state of excitement at present, in the expectation of the comet of 1556.

The Homestead Exemption Bill has passed the New York House of Assembly. In all likelihood it will also pass the Senate. The amount exempted is $1000.

What has become of the "Rochester Knockings," lately.

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For the Scientific American.

Explosion of a Boiler.

I noticed in a recent number of your valuable paper an account of the explosion of the boiler in the paper mills of E. & David Smith Barrons, Grenville, Conn., in which your correspondent asks for your opinion as to the cause of the explosion. This you omitted to give, and I agreed with you in giving it up until I saw another account in, I think, the Journal of Commerce. In this account the form, &c., of the boiler is described as that of a sugar loaf standing on its base, with a cast iron bottom some eight feet in diameter, and having a door in it 20 inches square; the bottom was of cast iron 1½ inches thick. Now suppose the pressure within the boiler to have been 20 lbs. to the square inch, (not a very unusual pressure for such an operation) the whole pressure upon their bottom was say 160,000 lbs.! The material to resist this pressure was the cast iron base, 1½ inches thick, having the aperture of 20 inches square out of the centre, closed by a door; when this gave way by the effort of this pressure—which it would have done had it been loaded with a dead weight to that extent—the resistance to the pressure to the same extent which the steam was exerting upon the other parts of the boiler, in exexactly the opposite direction, was suddenly removed; and the boiler received an impulse to 'leave that' equal to 180,000 lbs. The elasticity of the steam followed this impulse up, and the boiler, which weighed only some 8000 lbs., was obliged to make this flight sky high, to compensate for the difference between its own weight and the impulse it had received. This phenomenon is *layed* by simple facts and figures—as all steam boiler explosions can be explained, if the facts can only be arrived at.

Every steam boiler maker, for whatever purpose, should sing as he labors, the "Song of the Steam"—

"Harness me down with your iron bands,
Be sure of your curb and your rein," &c.

THOMAS L. KNAP.

Brownsville, N. Y.

Dr. Furman's Remedy for Stranger's Fever at the South.

If the patient be of a pelthoric habit, or full of blood, and the symptoms run high, that is the pains, heat and redness of the eyes, with a hard pulse—bleed moderately at the beginning, but without delay; take three drachms of Seneca Snake Root and reduce it to a powder, put in a convenient earthen vessel, and pour into it a half pint of boiling water, cover the vessel and let the tea simmer before the fire about half an hour, when it will be fit for use; then put a dose and a half or two doses of salts, (say four ounces for an adult) into a vessel, and pour on them as much of the hot tea as as will be sufficient to melt them, and as soon as the mixture is cool, give a small wine-glass full every twelve, fifteen or twenty minutes, until fifteen or twenty motions are procured, or until the stomach or bowels are well cleansed, for it is of the utmost importance that they be well emptied as soon as possible; then stop the use of the mixture and give tea alone, in the same quantity as before, but at intervals of an hour and a half, observing to sweeten it with sugar, by which it will be rendered more agreeable to the stomach—this is to be continued until the fever and pains are removed, which is often effected in the course of twenty four hours or less. Should the first doses of the salts and tea mixed be thrown up and the body of the patient be found to be in a costive state, it will be proper to use injections early, in order to ensure and facilitate the operation of the medicine as a cathartic, and if after the first evacuations, and the use of the tea alone for several hours, the body be not kept sufficiently open, which may generally be known by the redness of the eyes—the offensiveness of the stools—a dry skin—a hard, and sometimes feeble pulse—drowsiness or restlessness, and a disposition of the stomach to eject the tea, it will be proper to resort to the mixture again, until free evacuations are procured, or until the patient has five or six motions—then go on with the tea alone, as before. But should the disease assume a putrid form and any matter of a black or dark appearance be ejected from the stomach or pass from the bowels, a little weak lime water alone, or united with sweet milk, may be given in the intervals between the times of taking the snake root. Injections, also may, from time to time, be administered to advantage, when the skin is dry and the patient uneasy, especially when the body is not sufficiently open. When the fever goes off it will be proper to give small doses of Colombo root, say five grains, at intervals of an hour and a half, and if they set well on the stomach and the patient feels invigorated, the dose may be augmented to 10 grains, but should there be a return of the fever, this medicine must be laid aside, and the snake root used as before. When the disease is evidently in its putrid stage, the Virginia or small snake root may be used to advantage, with which, in certain cases, the decoction of bark may be combined; a weakness of the pulse, and a general debility of the patient, will point out the propriety of this combination. When in the first stage the fever is high with a distressing heat and dry skin, it will be proper to give a few grains of nitre every hour or two, and to wash the hands, face, and feet, in cold water, several times in a day. The application of cold water to the forehead, by means of a linen cloth several times folded, when the head is much affected, but especially if there is delirium, is of excellent use; the cloth, during this state of things, should be frequently immersed in the coldest water that can be procured, but when perspiration commences, this application, and the washing, must be laid aside. The clyster, mentioned above, may be of the usual kind of very thin gruel, to which may be added a little molasses and oil, and a small quantity of salts; or it may be made of mallow or mullen tea, with the addition of a little oil and salts. Should a state of extreme debility take place, the small snake root tea, with the decoction of barks, may be injected. The patient, from the first, may freely drink cold water during the fever, and take for nourishment good pure meal gruel, roasted apples, or any ripe fruit easy of digestion.

Origin of the Plow.

To understand its form and origin, it is necessary to bear in mind that the plow was undoubtedly a substituted instrument, intended to accomplish more expeditiously, on a larger scale, by means of animal draught, that which would, in the first instance, be the work of a simple tool used by the hand. In this country we would pronounce that tool to be the spade; but if we go no further off than the shore of Spain and Portugal, we shall be induced to pause before we award the palm of antiquity to that implement. The city of Cadiz was colonized, at a very remote period, from the eastern shore of the Mediterranean, by the Phœnicians. No district of Western Europe claims so high a pedigree in regard to the useful arts as the coast of the Peninsula, reaching from Vigo to the Straits of Gibraltar—and there we find that the implement of single-handed cultivation is not the spade, but a sort of hoe, with a very long blade. With this the workman cleaves the ground, dragging towards him the broken soil; as he stands on which, the treading of his foot helps, in a dry climate, to break the clods as they are turned away from the "land side." This mode of cultivation would not suit a moist climate. The Portuguese, who got it through the Phœnicians from the East, have in turn carried it to their own colonies, where it may be seen in Madeira, the Brazils, the West Indies, and even at the settlement of Macao, in China, as the common instrument of tillage, as the spade is with us. In Portugal it performs its task, tearing up the soil to the depth of two, and even three feet. It is an instrument with one long blade, but bent to a more acute angle with the blades of the pickaxe, and sometimes connected with it by a crossbar of wood or iron, reminding one of the capital letter A, with one leg shorter than the other.

In the Egyptian paintings and hieroglyphics the object often occurs both by itself and in the hand of the workman. Now let us imagine him, tired of the slow progress of tearing up the soil by hand with this implement, to conceive the idea of yoking a pair of oxen (for horses were never used in ancient agriculture) to the end of the handle, and making them drag it along the field, tearing up a sort of furrow as it goes; he himself following, and holding it at the point where the blade and the handle join. The oxen would, in this case, only be doing more quickly and on a larger scale what the workmen had been doing slowly, though with more care and finish. The instrument would tear up the soil as it went, and throw it in irregular lumps on both sides; the workmen, however, would desire that it should throw the soil on one side only, in order to leave a clear trench to receive the next furrow-slice in coming back; he would soon find it convenient, however, to give a twist to the blade of the instrument, so as to make it cast out the furrow-slice on one side. Now picture the yoke of oxen pulling at the end of the long handle, the man holding the instrument by the apex, extended out a little to give him more leverage and command of steadying it, the blade twisted obliquely, so as to cut forward and press on the soil sideways, and the little cross-bar sharpened so as to cut the soil in advance, instead of being an impediment; and we have at once the rude elementary form of the Egyptian plough—the same instrument used by the Lycian peasant to this very time, and containing the skeleton of the machine, from the first that ever was invented, down to the latest "new and improved" plow of the present day.

Curiosities of Royalty.

The Royal Palace of Sutgart, in Wurtemburg, has many curiosities and eccentric works of art. In one of the sleeping appartments is a *necessaire* or toilet box, worth at least 5000 guilders, about 12,500f. and a bed made for Napoleon Bonaparte, which cost 40,000fs. When you cross the threshhold of one of the saloons, a white spaniel springs barking to the door, being moved by clock work and a spring. Another clock represents a female figure made of porcelain, the full size of life and in national colors. The mouth of the figure is open, displaying 12 front teeth, all numbered from 1 to 12. In the morning at 6 o'clock these teeth have disappeared, and the mouth is toothless. At 7 o'clock the lady takes a tooth from the box on her right and places it into her mouth; at 8 she adds another—and thus she continues to add one after another, till at six in the evening all 12 are in. At 7 o'clock she takes away one, and thus on, until 6 o'clock in the morning, the jaws are once more toothless.

The clock is wound up once in six days. A Barometer is so arranged that, when it portends rain, a little man runs out of the house with an open umbrella in his hand, and when it is about to snow, he comes out with a cloak on, and an approaching thunderstorm the little man announces by coming forth, with a prayer book in his hand. These indications take place 12 hours in advance of the impending change. There is also a clock in one of the rooms representing a little man taking a pinch of snuff every hour, and sneezes a number of times corresponding with the hour. In the library there is a copy of Buffon's Natural History in 24 volumes folio, which is printed on pure white satin, while the illustrations are embroidered on it in floss silk. Ther is ae saloon in the palace, 50 feet long and 25 feet broad, the floor of which is covered with one mirror, so thick and solid that one can dance on it.—This mirror was a present from the Emperor Alexander to his sister, the late queen, and cost two millions of silver roubles.

Some Causes of Disease.

Sold substances by decay become volatile, they leave not a vestige behind. Animal and vegitable matter are prone to this destructive fermentation, and they contain all the elements of the most nutritious food and the deadliest poisons. Let this decomposition progress, and who can tell what recompositions are the result of the primary decomposition.

All organic matter consists of two or more of the following four elements, viz: carbon, hydrogen, oxygen, and nitrogen; and in combinations of these elements we have all the necessities for the support of life—the choice of them for its prolongation, and the means of its sudden destruction. The loaf bread and the beef steak contain the elements of Prussic Acid, Morphia, and Strichnia. The stems, leaves, and flowers of plants, contain the same elements; yet some are esculent, others poisonous. What transformations may be effected by recomposition no one can tell. The most wholesome vegetables, the most noxious weeds and the most poisonous plants, growing in the same soil, nourished by the same manures, and vivified by the same atmosphere and moisture. If the properties of plants are as variable as the species, is it imprebable that some, even while living, should diffuse a poison, or all after death and during decay should yield an effluvium capable of producing the malarious influence manifested by many melancholy results.

California Steamers and Coal.

In a recent letter Capt. Maury, of the National Observatory, says that the California steamers have been paying from $30 to $40 per ton for coal, and that the Pacific steamers will require 100,000 tons of coal this year, and that by the Panama Railway is finished 1,000,000 of tuns will be annually needed. He estimates that coal from the Bon Harbor coal mines (160 miles below Louisville) can be delivered at Chagress for $4 to $5 per ton; and when the railway is finished to Panama, that $1,50 or $2 more will place each ton there, making the whole cost of transporting coal from the mines to Panama $7 per ton. Capt. Maury also states that the proprietors of the coal mines on the Mississippi River and its vicinity can deliver coal at Chagress cheaper than it can be furnished from any other mines, and that these Mississippi Valley coal mines must of necessity supply to a large extent the coal for the Pacific steamers.

Roads in the North-West.

Memorials are being sent to Congress from Green Bay and vicinity asking for appropriations to construct a road from Green Bay to St. Paul, Minesota: and another from Green Bay to Copper Harbor, on Lake Superior. The Green Bay Advocate says:

"The necessity for having a road opened to Lake Superior, for Winter travel, is becoming every day more and more apparent;—besides, the road will pass near small settlements that are springing up at different points upon the numerous streams on the north-west side of Green Bay, and upon Keewenaw Bay of Lake Superior; and probably mineral lands will be found upon the route or vicinity thereof. The importance of the road is obvious, and from the time it may be opened it will be an important thoroughfare at all seasons of the year—but for winter use it will be indispensible.

Gold on the Yellowstone.

The Grand River Eagle has a letter which says:—I have been credibly informed, and by good authority, that a man, some thirteen years ago, was taken by the Black Foot Indians, and has been kept in a measure confined in that region until within a short time, when he effectected his escape, bringing the glorious intelligence that that region abounds in the precious metal; bringing some 60 lbs. of gold dust, taken from the surface, so pure that it is worth $14 to the ounce, whilst the real pure is worth but $18; making the amount of his burden, at the time he made his escape, at $14 the ounce, $13,440. I understand that the same individual is in Chicago, raising companies, to be equipped with rifles, for the purpose of returning to the golden sands to make a further exploration of the country, and for the benefit of said companies, has deposited in bank $3000 to pay expenses of fitting out, &c.

Death of an Eminent Artist.

Sir. William Allen, an eminent painter, and President of the Royal Academy of Scotland, died recently at an advanced age. He was of humble origin, but rose, by his talents and perseverance to his high position.

The Louisiana Statesman says that an insect, so small as to require microscopic eyes to detect it, is destroying the orange trees in that vicinity and on the sea coast. They attack the trunk and limbs in immense bodies, covering it as with a second bark, and seem to destroy it by absorption.

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New Inventions.

New Respirator and Inhaler.

Mr. A. S. Lyman, now of this city, inventor of the Safety Steam and Water Guage, which bears his name, has invented a beautiful instrument or apparatus, for inhaling medicated vapors by sick persons, and also to purify the atmosphere, which may be inhaled by any person. The latter quality of this neat apparatus will enable a person to go into, or labor in a deleterious atmosphere, without danger. A small cap-shaped reservoir of light material is fastened on the head with a neat tube secured to it, in such a manner that the wearer only inhales through it. This tube communicates with the atmosphere and with the small cap reservoir, which contains some purifying or disinfecting substance, such as moist lime, or fine charcoal, which absorbs impurities from the atmosphere, and allow the pure air only to be taken in by the lungs. It is well known to many, that if a clean silk handkerchief be tied around the nostrils in single fold, so that the wearer can respire through it, and expire by the mouth, he may, with impunity, for some time, stay in an unhealthy apartment or walk through pestilential marshes. The Indians of Florida and those of South America, who live in swampy Savannahs, always cover their mouths and nostrils loosely, with some part of their garments, when travelling at night or early in the day. They cannot give a reason for this custom, but it is either one of savage instinct or an old discovery rendered customary by tradition. Upon these principles of fact Mr. Lyman has constructed his Respirator, combining with it the advantages of mechanical science in its construction, and chemical science in the matters which he uses as purifying absorbents, to remove the deleterous gases that are mechanically combined with the atmosphere, to allow the pure air only to be inhaled, and also to enable a person to inhale medicated vapors, such as pure oxygen, for the purpose of curing disease. This neat apparatus is useful for the invalid, physician, chemist, dyer, bleacher, miner, traveller and mineralogist. Measures have been taken to secure a patent.

New Water Filter, Cooler, Refrigerator and Meat Preserver.

Mr. Alfred W. Plattenburg, of Cinncinnati, Ohio, has invented a very neat apparatus, which filters water, cools it, and by a very excellent arrangement and combination of parts, it embraces a fruit and meat preserver, which is kept always at as low a temperature as the freezing point, with a dry atmosphere, the very thing necessary for the perfect preservation of such articles. The water is filtered at the top of the apparatus, then passes around the cooler, easy of access, which is filled with a frigerific mixture, and is drawn off by a faucett when wanted. It is constructed to let all the condensed moisture pass away below the apparatus—this being an imperative requirement for the good preservation of fruits, &c., that may be placed in the chamber below the cooler. It may be useful to a number of our readers at this time, to know what substances are best adapted, as non-conductors, to be placed between the division or double casing of Meat and Fruit preservers. All Ice houses, meat preservers, &c., should have double walls or casings filled with some non-conducting substance between. The cheapest and best non-conducting substances are dry saw dust, cork cut into minute pieces, or fine charcoal. Cork is the best, as it will not absorb moisture, but it is the most expensive.

The inventor of the above apparatus has taken measures to secure a patent.

The New Art of Kerasophany.

A new art has been discovered in Berlin, which consists in making pictures of a material, the principal ingredient of which is wax, in imitation of transparent ones made in porcelain. To be seen, the picture must be placed between the observer and the light. The ingredients used with the wax destroy its brittleness and it withstands a heat of more than one hundred and fifty degrees Fahrenheit.

Improved Machine for Setting up the Bows for Covers of Wagons and Carriages.

Mr. A. McKinney, of Montgomery, Orange Co., N. Y., has invented a very simple and good apparatus for setting up the bows for the covers of wagons and carriages, previous to trimming them. By the present method of setting up the *bows*, each is measured by rule, or set up by the eye, and this requires a great deal of time, and is very troublesome and expensive. By Mr. McKinney's machine one person will set the bows of a wagon in fifteen minutes, and do it with the utmost accuracy, for there are setting rules that measure the height of the bows and there is an adjustable arc which, in a moment can be set to regulate the particular curve to set the bows for the cover, graduating it to the particular curve desired. This machine is a guage for the object stated, and by it a great amount of time and trouble—consequently money, will be saved by it. The inventor has taken measures to secure a patent.

THE ECLECTIC BEE HIVE.

FIG. 1.

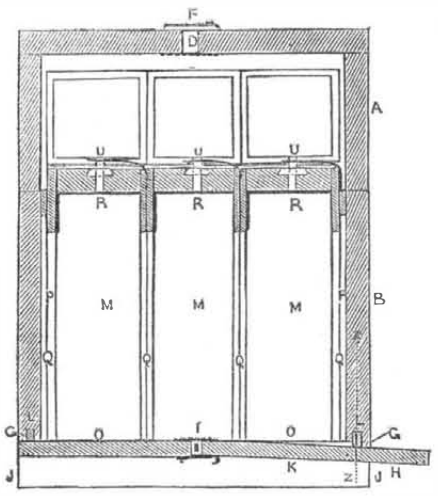
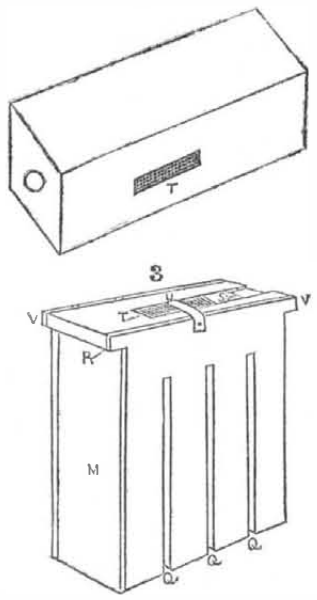


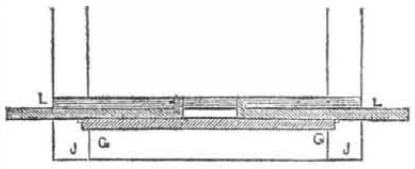
FIG. 2.



This is a recently patented improvement belonging to Mr. Clark Wheeler, of Little Valley, Cataraugus Co., N. Y. Fig. 1 is a vertical section, from front to rear through the centre. Fig. 4 is a transverse section on the dotted lines Z Z. Fig. 2 is a bottom perspective view of one of the honey drawers detached; figure 3 is a view of the pendant box; fig. 5 is an edge view of the lighting board. The same letters refer to like parts.

Fig. 1 consists of an external case, A B; H is the bottom board; M are pendant boxes; I and O are the drawers. The boxes and drawers are enclosed by the case, leaving a space, P, of about the fourth of an inch around for air, to prevent extremes of temperature. A is the upper section of the case, and is moveable, to allow free access to the hive for any purpose desired. B is the lower section with two sides extending below, forming legs, H, the bottom board is inserted into horizontal grooves, G, formed in the extended sides of the case below the level of the lower edge of the front and back. This board serves for the bees to light upon, and has wedged shaped

FIG. 4.



grooves, represented by K, fig. 5; it allows an entrance on both sides, and also for closing one or both, when desired. L L, figs. 1 and 4, are rectilinear bars, inserted through openings in the sides of the case, and moving in horizontal grooves in the lower edge, front and back of the case; they retain the bottom board in its place and they serve to graduate the space of ingress and egress. The pendant boxes, M, serve for the bees to store their winter's food, rear their young, &c. They are suspended in a vertical position inside of the section, B, by the projections, V V, fig. 3.—These boxes are open at the bottom to allow the free entrance of the bees and the descent of extraneous matter to the bottom board, and then taken out at the entrance. They have also vertical slits, Q Q Q, which allow access to the bees from one box to the other. Communications, for well-known purposes, can be cut off from one box to the other, by bringing the solid portion of one opposite the open portion of the other. In these pendant boxes two swarms can thus easily be formed without disturbing their natural position, and on the approach of winter two small colonies may be united together by bringing the two boxes containing them into one hive. The horizontal slits, R R R, allow the Aparian to introduce a knife to sever the comb from the tops. The slide, S, is to open the aperture to allow the bees to pass into the drawers, U U U. The opening of the slide is covered by a wire cloth, T, which serves as a ventilator; U are straps for the purpose of lifting the boxes. The drawers are for the purpose of obtaining marketable honey free from impurities. The bees have access to these boxes by the rectangular slit seen in figure 2. The aperture, I, in the bottom, and the opening, D, through the top, serve to ventilate the hive, to be closed with a button, F. They are covered with wire cloth to prevent the entrance of enemies.

This hive affords ready communication for the bees through all its parts, and allows the graduating of its capacity at all times, corresponding with the number of its occupants. It enables a small as well as a large swarm to maintain its required temperature, to work their comb to advantage, mature their young and guard their domicil. Bees can be treated by the Aparian in the most convenient manner for health, and their prosperity in every respect. Protection is afforded against the ravages of the moth, and every facility is given for cleanliness, ventilation, handling, shifting and the prevention of robberies by the enemies of the bees. The Eclectic Hive, therefore, is a good one.

More information about rights, &c., may be obtained by letter (*p. p.*), addressed to Mr. Wheeler.

A New Discovery for Millers.

A discovery of a chemical nature which seems to awaken some interest at the West, has been made by a Mr. Carpenter, of Pontiac, Michigan, a practical miller, consisting of a process in preparing wheat for flouring; the operation of which is to cause the grain to pulverize so much more readily, that in grinding, considerable less power or pressure of the mill stone is necessary in reducing it to the required fineness. Dr. Desnoyers, of Detroit, accompanying his report of an analysis of some flour made from wheat subjected to this process, says, "The gluten was very fine, being exceedingly tough and elastic qualities essential to successful panification."

Manufacture of Iron.

"We should feel under renewed obligations to the Scientific American for an intelligible account of the lately trumpeted cheapening process in iron-making by which, from pulverized ore and coal, wrought iron is said to be made direct for $25 per ton."—[Pottsville Mining Register.

[We have not heard anything about this alledged discovery for some time. One thing we regret, viz., that the manufacture of such a useful metal as iron should be so troublesome and expensive. Iron is the most sensitive of all metals, hence the difficulty of its manufacture, and the variety of kinds produced by the same apparent treatment. Every improvement in the manufacture of iron is a valuable one, for no metal equals iron in the range of application.

Friction Match Case.

U. S. Circuit Court, before Judges Woodbury and Sprague. Ezekiel Byam et al vs. William Brooks.—This was a bill in equity for an injuction against Brooks to restrain him from manufacturing or selling friction matches. The court at a previous hearing granted a temporary injunction; now, after argument, made the injunction perpetual. Eben Smith, Jr., counsel fo the complaints; Bancroft and Dickinson for the respondent.

[This must surely be a peculiar, not a common match.

Parker's Water Wheel.

The suits pending in the District Court of the United States against several of our saw mill owners, for an infringement upon the patent water wheel of Mr. Parker and upon which injunctions had been granted, and the mills stopped, have been compromised by a portion of the defendants, Messrs. Seitzinger, Wilson, Kessler, Bickel, and Ewing, with the patentee, on favorable terms, and the mills set going again.—[Pottsville Emporium.

One of White's Gas Apparatus has arrived in this city from Liverpool, by which gas can be manufactured of resin and water, at a cost of about one dollar per thousand feet. The process is very simple, and the gas, when made, much purer than that of the Gas Companies of this city. We shall soon see what it can do in cheapness, we know what it can do in quality—it is good.

Identification of Dr. Parkman's Body.

The Tribune says it is suggested by a very eminent Surgeon of this city, that in the trial of Dr. Webster, one of the most important, and, to a Chemist, most obvious processes for determing upon his guilt, has been entirely forgotten, or at least neglected. Admitting that the remains found in the College are Dr. Parkman's it is possible that they were placed in Dr. Webster's appartments during his absence, unless it can be shown that they were there subjected to fire—in which case the time consumed and the necessary disorder induced by the proceeding, would make his privity and complicity unquestionable. This point could easily be settled by an analysis of the soot in the chimney, which would disclose recent deposits of the constituents of the human body if any had been burned in the grate within half a year.

[We do not believe that the shadow of a fact could be obtained by such an analysis, to determine either the guilt or innocence of Proff. Webster. Suppose that Dr. Webster had at one time, long ago, consumed parts of a human body, like Dr. Strong, and had not touched Dr. Parkman. What then? could any chemist tell what body the soot &c., belonged to? We trow not.

Camels for the Western Prairies.

Eleven Camels, from the Canary Islands, have recently been imported into Baltimore, and are destined for St. Louis, to test their capacity for crossing the western plains to Santa Fe and California. Whether they will be successful or not, we cannot tell, but we are of opinion that they will not answer the purpose at all. The climate is by far too cold in winter.

After all that we have said about the dirt in our streets, the corporation still glories in *gutter*.

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Scientific American

NEW YORK, APRIL 13, 1850.

Reform of the Patent Laws.

The Bill now before Congress, presented on petition of the Committee of the Convention of Inventors, mentioned in our last number, embraces some new and good features. It clears up many ambiguous points of the present Code, and may be considered as a useful amendment to it.

The second section enacts "that it shall be the duty of the Commissioner of Patents to issue a Patent on *any* application therefor, unless it shall appear plainly beyond all question, that the applicant is not entitled thereto."

There never was a more necessary amendment required, than this one, at the present moment, for it is the custom of the Patent Office to throw every doubt in the scale against applicants. There are other clauses providing for retaining on file all correspondence, &c., as evidence, relating to applications for patents, re-issues, &c., whether for or against the same, and in case of a rejection of an application, the Commissioner must record in the Patent Office, particularly and at length, the reasons for his decision. The amendments also provide for an appeal from the *decision* of the Commissioner of Patents, in any case where a party has appeared and opposed that decision, to the Justice or Justices of the Circuit Court of the U. S., where either of the parties reside. This appe'al is to be decided by the Judge upon the evidence of certified copies of papers of the case, from the Patent Office, and any other evidence deemed proper by the Court Judge, who is to decide upon the same, and transmit his decision to the Commissioner of Patents, who must dispose of the case in conformity to the said decision. It is also provided that if any person shall give notice to the Commissioner of Patents, in writing, to be heard in opposition to the re-issuing of a patent, it shall be the duty of the Commissioner to give him a hearing. The main and most original point of the proposed amendments is a plan to repeal a patent by a writ of *seire facias*. The present law provides that the Court can declare a patent null in whole or in part, according to the 16th section of the law of 1836, but the section is a miserable piece of composition, and has been the means of doing a great deal of evil—we are glad to see that the present amendments clear up and define the principles of action embraced in this section. The amendments also provide that when an application is rejected in consequence of the subject matter being described in whole or in part in some printed publication, the person interested therein shall be furnished upon the payment of proper fees, with copies of illustrations and descriptions of the said publications referred to. We are glad to see this proposed amendment.

Section 25 of the amendments provides for the printing of the specifications in one and not more than three periodicals, to be issued as often as once per month—the patents to be illustrated with wood engravings. The Commissioner is to advertise for proposals, and contract for five years with the lowest bidder. We are not opposed to this section, only, if carried into law, the Commissioner must make clear and definite proposals—no tricking must be allowed. It is our opinion that some people have an eye on the "loaves and fishes," and make a great pretence of affection for inventors' rights. A magazine originated in Washington three years ago, called the "Mirror of the Patent Office." The projectors of it tried to make a haul on the Patent Funds in the shape of an appropriation, all for the charitable object of "inventor's benefit,"—good souls they were too full of the milk of human kindness to look for any benefit to themselves. Well, *they* didn't get the appropriation, but others have taken the hint, and there is no telling what may be the result. Should the proposed amendments, or any part of them, become law, we will publish them in full.

As our contributor, "Junius Redivivus," touched on this resolution of the inventors convention, in one of his articles, we have but a few words more to say about it. It is very evident that all those who voted for it did not know what they were about. The whole income of the Patent Office would not suffice to print every specification, illustrating the drawings with wood cuts. The wood cuts for some patents could not be got up for less than $150, yea, we know one patent which could not be illustrated for less than $300. The wood cuts alone to illustrate the drawings of West & Thompson's Clasp Coupling Joint patent, cost $60, just double the fee paid into the Patent fund, and they were done very cheap. We like to see men who attempt to make improvements on law, understand their business. Let the spare change in the Patent Treasury be first devoted to publish the past history of American Inventions.

Curious Drugs for Producing Hallucination.

From time immemorial the singular effects produced upon the mind, by drinking wine, &c., has been known to the inhabitants of every nation. It is however but a short time since a knowledge of inhaling certain gases into the lungs produced effects nearly akin to that of drinking alcoholic drinks. It is but a few years since *ether* was discovered and intelligently applied to produce entire insensibility of the nerves; and it is only two years since Chloroform was brought to light, as the best substance to be used for this purpose.—This singular substance is now employed in our Hospitals for the most humane purposes. A knowledge of a letheon, like Chloroform, has been claimed for the Chinese Doctors, as far back as the third century, but when was there a discovery brought forward that was not claimed by some pedantic antiquarian, for the Chinese, Hindoos, or the Egyptians. That the Chinese Doctors used opium to produce insensibility, we do not doubt, and that they have been long acquainted with some singular things, unknown to us, no one will deny, but not gases; and this is especially true of a singular drug called *Hashish*, which, when eaten or smoked, produces the most singular mental phantasmagoria. The Hindoos, however, seem to be better acquainted with it than the Chinese, but it is only within a few years since a knowledge of its peculiar effects was made known to Europeans. This drug is a preparation of Indian Hemp. A recent article in the Paris Medical Times gives an account of an experiment made by a physician with some of it upon a number of individuals. He went to a familiar *Cafe*, selected his subjects and gave a single grain to each. Some bolted it, others smoked it; one individual merely smeared about a quater of a grain over his cigarette paper. About one grain was dissolved in a glass of Curacoa, and this was allotted to the master of the house. His two young and handsome daughters were forbidden to taste of the drug; but the physician had here evidently forgotten his Scriptural history. About three-quarters of an hour passed quitely over, and the curious were rapidly lapsing into incredulity, when a short laugh, followed by an awful and mos piercing shriek, issued from an inner apartment. The youngest daughter, following traditional example, had tasted of the forbidden object, and was suddenly struck with delirium and hysterical movements of a very alarming appearance. Conciousness was only one half obliterated, and the mind seemed to make supernatural efforts to escape from the chain about to be thrown around it. The shrieks were rapid, most violent, and is a peculiar kind. The girl felt conscious that she was raving, and earnestly entreated all around her not to conclude that she was mad; each appeal being terminated by a heart-rending scream. Some internal sensation also compelled her to cry, every now and then, that she was dying. With great difficulty she was conveyed to bed, where the delirium continued for four hours. As if a signal were sent by this mischance, the young men in the *cafe* went off about the same moment. The effects were not, however, so violent. They were extremely varied. The indiviual who had smoked some hemp (half a grain) in his cigarette was suddenly attacked by violent fits of laughter, which compelled him to roll on the floor, during which he exclaimed that something was raising him up to heaven. These fits resembling hysteria, did not last more than ten minutes. Another individual, instead of being agitated, fell suddenly into a deep sleep, bolt upright against the wall, with the chin sunk on his chest, and features in the most perfect calm. Were it not for the deep, slow inspirations, one would have thought him defunct, for the face was deadly pale. So profound was the sleep, that it continued for three hours, despite the shouts and screams of the excited bacchanals who danced around him, for in the majority the hemp merely produced intoxication. In all, the excitement was soon followed by an invincible tendency to sleep; the benches were strewn with the slain, and delightful dreams, producing strange laughter, repaid the adventurous tasters for their curiosity.

The love of excitement is so strong in man that he seeks it by some means or other, hence in those countries where wine is forbidden, opium and tobacco are used as substitutes. At the foot of the Himmaleh mountains, a hemp grows wild, from which a liquor is made which produces intoxication of the most dreadful kind, exciting every passion in a high degree. A man under its influence looks like a madman, and exhibits his excitement by dancing, singing, shouting, and tossing his arms. The Hindoos, some of them, are very fond of it; particularly peltry-bearers. They say it makes them forget all their pains and fatigue. The name of this hemp, and the preparation from it also, is "Bhnm." The drug "hashish" is made from this hemp, and it has been reared in France for experimental purposes. The peculiar effect of the "hashish" is the inversion of the order of time—a minute becomes an hour, and scenes like those described in the Arabian Nights Entertainments flit before the mind, with all the wonderful phenomena of genii, fairies, pallaces of gold and silver—the real scenes of "Alladdin and his Wonderful Lamp." A frequent use of the drug is dangerous to sanity and health, as is the use of all unnatural stimulants. In commenting upon any subject, authors and editors should always have a moral in view—to warn where there is danger, to encourage where there is hope. It is a fact that almost every person often craves for some mental stimulant, and, alas! too many are weak enough to indulge in gratifying an appetite which feeds on that which destroys it. He who conquers his passions and appetites, and brings them into the subjection of whatsoever is pure and lovely, exhibits a greatness of mind. Regular habits, plain food, cheerful and healthful exercise, the performing of charity and the reading of good authors, will impart a cheerfulness of mind and a healthfulness of frame, which no one knoweth but those who follow after these things.

The Woodworth Patent.

There is a great excitement throughout our whole country respecting this patent, and the universal expressed opinion is, that it exists now, as an Act of Congress, gained by misrepresentation—and money on the one hand—and an easy virtue of members on the other. It is allowed to be an unjust monopoly—that the instrument is held by individuals as a patent monopoly granted by Congress for an invention of William Woodworth, which he *never invented*, and never pretended to have invented.

In 1828 William Woodworth received a patent for improvements in Planing Machinery, and after he was dead and in the grave, his son and assignees surrendered the old patent, made out a new specification, and got a reissue covering an invention which has been decided by a Jury in Baltimore, not to be the same at all, as the invention of the deceased Wm. Woodworth and not embraced in his specification.

The most energetic measures have been taken in this State to get the patent abolished, and our Legislature has passed resolutions instructing their Members in Congress to search into the matter. In Philadelphia a large meeting was held on the third inst., and I present some of the resolutions passed, to show the state of public opinion there:

"Whereas, from evidence before your Committee, they doubt whether William Woodworth was the inventor of the original patent granted to him in 1828, for a planing machine, and it is clearly shown that his amended specification and claim, on which this patent was extended by an act of Congress, is different from the original, and is so formed as to embrace almost unlimited range of machinery, not included in the original patent—consequently this act must have been obtained by misrepresentation. And whereas, the great and extensive demand for such machinery as is embraced under the new claim of 1845, has enabled the owners of this patent to demand enormous sums from the various kinds of mechanics using such machinery, which they must pay, or incur the hazard of litigation.—Therefore,

Resolved, That originators of valuable inventions deserve encouragement and protection, and nothing so much endangers their security as fraudulently obtained patents and frequent renewals by Congress through misrepresentation.

Resolved, That the re-issued patent to the administrators of Wm. Woodworth, combines important improvements, which other mechanics have made in similar machinery, since 1828, and covers principles and combinations never invented or claimed by the original patentee. That such re-issued patent is in the judgment of this meeting an imposition, and they protest against that renewal being sanctioned by legislative construction."

A model was exhibited and some powerful speeches made.

The present patent of Woodworth expires in 1852, and the assignees intent on taking time by the forelock, have lobbied all this Session of Congress to get a renewal of their special Bill for another 7 years to commence after the present term will expire. It is likely that instead of a renewal, there will be a repeal, although the majority of the Patent Committee, with a glorious beef soup generosity have recklessly reported a Bill for a renewal—a thing which they had no honest business to do.

Mr. Otis has presented a minority report and made a powerful speech against it. The following is an extract:

"If you pass this bill as reported, Woodworth, the elder makes an invention—meritorious it may be—secures a patent, sells it out, and dies. His son and administrator has it renewed, under the patent law, for seven years, and again has it renewed by Congress, four years before the expiration of the first seven, for seven years longer. Six years after the death of the original inventor, he surrenders up his patent as invalid, and takes out a new patent, which is also declared, by a jury to be invalid for claiming what was not claimed under the first patent. The disappointed litigant comes here and asks you to pass a law for his special benefit, by which he is to obtain a legislative sanction to his unjust claim. He is not the inventor—his father is not the inventor. Congress alone gives him a title to what he was not entitled to without Congressional interposition. Armed with this he goes into Court and defeats his opponent. Armed with this, having his principle and application sanctioned by a law of Congress, he suppresses all other machines, puts his own price for the use of his machines, and thus secures for twenty-one years, a monopoly worth millions to the possessor. The person who invented this new machinery for cheating his neighbor in Legislature, and for deciding law suits, deserves a patent for his ingenuity in management, if he does not deserve one in mechanics."

However flexible some few may be to get the applied for renewal made into a law—which should occupy the attention of a subsequent Congress, Mr. Otis shows that the managers of the business "*know* their *business*." Just think of getting a special law passed for a set of generous speculators, four years ahead of the time it went into operation. Was there no corruption, that single view of the case—in the act itself, is a disgraceful one in every sense of the word. In Congress, as in a House of Worship, "every thing ought to be done in decency and in order," but the opposite of this is the true picture in too many instances.

JUNIUS REDIVIVUS.

New York.

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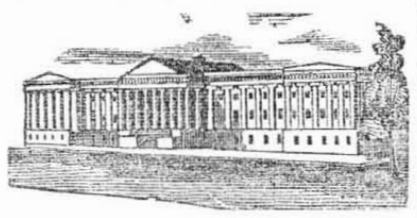

LIST OF PATENTS CLAIMS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

FOR THE WEEK ENDING MARCH 26, 1850,

To R. Cook, of Saratoga Springs, N. Y., for improvement in blast-pipes for conveying heated air and gases to furnaces.

I do not claim the discovery of this method of creating a partial vacuum or draught, through one pipe or aperture, by the varied movement of a fluid in another pipe, with which the first is connected having its mouth or orifice in contact with the fluid in motion; but what I claim is the application of this method of creating such draught or partial vacuum, to the return of the smoke and other escaping products of combination to the fire, in order that such of them as are combustibie may be there consumed, the method or means consisting substantially in the manner of employing the blast pipe, inclosing the hot air pipe, as herein set forth.

To G. Fletcher, Sen., of Greensburg, Ind., for improvement in Bee-moth traps.

Having thus fully described the nature, construction and operation of my improved Beehive Cleaner and Protector, what I claim therein as new and desire to secure by Letters Patent, is the combination of the fluted roller operated as described, with the moth entrance of the beehive to act as a moth catcher and killer, substantially in the manner and for the purpose described.

To G. Fletcher, Sr., & Turner Barnes, of Greensburg, Ind., for improvements in Seed-planters.

I claim, 1st, the introduction of a cleaning rod, operated as described, in the hollow share of a seed planter, for the purpose of removing extraneous matters that may have entered the orifice tending to impair or prevent the action of the machine.

To A. Fulton, of Pittsburg, Pa., for compound hard and soft metal packing.

I claim the compound metallic packing ring constructed of hard and soft metals substantially as herein set forth, the hard rings being for the purpose of preventing the substance of the softer from squeezing out around the follower and flange of the piston.

To G. P. Gordon, of New York, N. Y., for improvement in Printing Presses.

I claim, first, the peculiar manner of constructing the nippers so that their upper surface shall be even with the surface of the paper, and their inclined or curved surface shall incline away from the surface of said paper.

I also claim an adjustable table, to be adjusted to the nippers, being first adjusted to the pipe or form substantially as above set forth and described.

I further claim a frisket operated on by the motion of the carriage, so that when the carriage goes in with the sheet its forward end shall raise under and support the paper, and (from the upward pressure of the nipper, against the platen in giving the impression,) grip it firmly and relieve it from the type after the impression is given, and on the receding of the carriage with the printed sheet, its forward end shall lower and allow the said sheet which rests upon it, to slide or fall off into a box or draw placed to receive it, operating substantially as above described.

I further claim the application of the vibratory power to the handle of a distributing roller, (said handle projecting from the frame of said roller midway from its respective ends,) and not to the end of the roller frame as in general use.

I further claim the combination and arrangement for opening the nippers when the carriage moves out with the printed sheet, and closing them just previous to its going in, which combination consists of the horizontal bars or polls, the curved pieces, the lever attached to the shaft, the hub, with its projection, on the main shaft, and the spiral spring, one end of which is attached to the press frame, the whole being arranged and operating together substantially in the manner herein before set forth and described.

[This is a general claim which we could not abbreviate.]

To C. Guiteau, of Syracuse, N. Y., for improvement in correcting magnetic needles.

I claim the method herein described of producing perfect harmony and coincidence between the axis of a magnetic needle and the magnetic axis; and also of producing perfect harmony between any number of magnetic needles, to wit, removing portions from the needle whether by the formation of channels upon the upper or lower surface of the needles, of the form and in the position substantially as herein set forth, or merely by grinding or filling or cutting away, as above set forth.

To E. H. Hyde & R. Dawson, of Haydenville, Mass. for improvement in Fountain Pens.

What we claim is the combination of the moveable spring tongue, with the pen, (for the purpose of forming a fountain pen,) when the whole is constructed, arranged, and combined, substantially as herein described.

To H. Iverson, of New York, N.Y., for improvement in revolving breech fire-arms.

I claim first, the arrangment of the arm, or their equivalents, whereby the motion of half cocking, and cocking the hammer, is communicated to the barrel to open the joint formed by the grooves, around the breech, and also to close said joint on the discharge of the piece by the operation of the hammer, slides, and spring alone or in conjunction with the main spring, substantially as described and shown.

Second, I claim the the arrangement of the slide, and circular ratchet, or their equivalents, whereby the motion of the barrel sliding forward, is made to revolve the chambers the required amount, to bring the next chamber, in line for the next discharge of the piece, substantially as described and shown.

To A. Jennings, of Fall River, Mass., for machines for forming rotary cutters.

I claim the arrangement upon pupet heads having a sliding motion upon a bed plate, of adjustible slides, supporting disks to which are attached the boxes in which the cutter shafts revolve, the disks being capable by means of vibratory motion on their axes, of adjusting the cutter shafts to any required angle with the horizon, and the whole machine being for the purpose of shafting at the same time, both faces of a revolving cutter, substantially as herein described.

To L. Lamborn, of Kennett Square, Pa., for improvement in Cultivator Teeth.

I claim, 1st, the manner of constructing the cultivator tooth substantially as above described, by which a separate steel cutter is embraced between the two halves of the tooth removable at pleasure and by which wedges can be applied against the shoulders of the tooth and the under side of the beam for the purpose of changing the angle of inclination of the share in order to increase or diminish the depth of culture, the tooth turning on the bolt passing through the head of the same and the beam, whilst inserting the wedge, the wing of the tooth being secured to the four sided changeable share, by means of screws and nuts or other equivalent means.

To L. Moore, of Ballston Spa, N. Y., for improvement in printing floor oil-cloth.

I claim the combination of the stops, with the block, by which the printing of the floor oil cloth is performed without moving the stops until the first printing is finished, and dispensing with a second block to cover the parts of the cloth not printed, at the first operation by simple changing the position of the hinged guages on the block without moving the stops on the bar as above described, thus dispensing with the second block usually employed.

To S. S. Rembert, of Memphis, Tenn., for improvement in Threshing Harvesters.

What I claim is the mode of cutting and threshing the grain by forcing the same against the knife, and after being cut, between the teeth of the concave, and the teeth of the gathering or threshing wheel, or shaft or bars or beaters, during the progress of the machine as herein set forth.

[This, we have been informed, is a real good invention; it was illustrated in No. 5, present volume of the Sci. Am.]

To Ira Reynolds, of West Liberty, Ohio, for improvement in Plow and Clevis.

I claim, first, making the reversal point, with the triangular shoulders, in combination with the screws, and nut, for binding firmly together the land side, mould board, cutter, and share, as well as securing itself, in the manner herein fully described.

2nd, I claim the device of fastening the reversible share to the flange on the lower part of the mould board, substantially as set forth.

3rd, I claim the mode of employing the inclined brace rod, in combination with the box plate, cast on the inside of the mould board, for adjusting the beam to take more or less land to act as a substitute for the clevis, and at the same time to brace or stiffen the woodwork of the plough by attaching it to the cast iron mould board and land side, as described.

To F. Searle, of Springfield, Mass., for improvement in Dental and Surgical Chairs.

I claim the application to chairs of the middle section, substantially as herein described, whether operated by rack and gear, or by lever, or windlass, or screw, at two corners of the chair or at four, or at any intermediate point, provided the same results are obtained by substantially the means herein set forth.

To A. N. Severance, of Cherry Valley, Ohio, for improvement in Cheese Presses.

What I claim is combining with cheese presses, two beds upon which the cheese is alternately pressed, which revolves together on a horizontal axis, substantially in the manner and for the purpose herein set forth.

To G. Wales, of Liberty N.Y., for improved method of dressing cut tobacco.

I claim the method of dressing cut tobacco by passing it through a revolving cylinder, having holes through it, to sift the short from the long pieces, and with hooks or pegs projecting from its inner surface towards the centre, for lifting the threads of tobacco, as described.

To E. Wicks, of Bart Township, Pa., for improvement in the Seed Roller of a Seed Planter.

I claim the before described mode of constructing the planting cylinder, by which the cavities or cells, in the periphery are enlarged or diminished simultaneously by simply turning the plate, or other similar device, having its sections of male screws on its inner face, and causing said sections to act on all of the radial slides, forming the bottoms of the cavities at the same time and holding them firmly in the required position, by the thumb screw, or other equivalent mechanical device, substantially as aforesaid, by which like results are produced.

To N. B. Powers, of Lansingburg, N. Y., for improvement in printing Floor Oil Cloth.

I do not claim printing oil floor cloths by means of printing blocks made with pitch pins by hand, on a guage line, as this is the usual mode of printing, but what I do claim is the the employment of the before described combination of the guage, and stops, constructed-arranged, and operated, in the manner and for the purpose above set forth, for guiding the printing block without the use of pitch pine, during the operation of stamping the colors on the cloth, by which the work is rendered much more accurate, and is executed with greater dispatch, and is not so liable to become blurred during the operation of handling the blocks, nor of having the colors to over lap, by a misplacement of the blocks.

DESIGNS.

S. A. House, of Mechanicville, N. Y., for design for Stoves.

To C. W. Warnick, F. Leibrandt, J. G. Abbott & A. Lawrence, of Philadelphia, Pa, for design for a Portable Furnace.

For the week ending April 2, 1850.

To H. Aiken, of Franklin, N. H., for clamp to be used in the manufacture of wrought iron car wheels.

I claim the combination and application of the above described combined cylindrical clamp, consisting of the following parts, namely the ring, of a shaped section, with handles attached and ring, and screw bolts, applied for the purpose of combining and holding the wrought iron arms, or spokes, in a true circle, together with the pieces, in the centre to form the hub during the operation of welding the several parts together as above described.

To Wm. C. Allison, of Philadelphia, Pa., for improvement in machines for hoisting.

I claim the separate and independent action, each upon its own axis, of the 2 upper pulleys whereby the buckets or weights are suffered to pass freely between them without let or hindrance.

And in combination therewith, I claim also the swinging of the buckets or weights between the chains so that they shall always hang downward in what ever position the parts of the chains to which they are attached may be.

To E. T. Beers, of Honesdale, Pa., for improvement in Cooking Ranges and heating air.

I do not claim the making of the hot air chamber or radiating pipes, nor furnace and water reservoir individually, but what I do claim is the employment and use of the combination of the furnace and oven in the hot air chamber, with the radiating pipes, flues and dampers, for the purpose substantially as herein above set forth.

To M. H. Collins, of Boston, Mass., for improvement in Chimney Caps.

What I claim as new is the injector, in its combination with the cap plate, tube, and frustum, and made statonary against the cap plate, all substantially as herein before specified.

And in combination with the cap plate, the frustum, and tube, I claim one or more flat plates or rain fenders, as applied and used substantially in the manner, as herein before explained.

To R. W. Davis, of Rogerville, N. Y., for improvement in Churns.

I claim the self adjustable float or slat, which opens when churning the cream and closes of itself when the dasher is turned in the opposite direction to gather the butter as before described.

To W. Davis, of Granville, Va., for improvements in Saw Mills.

I claim 1st, the combination and arrangement of the levers, (five) with the catch bar, and cam, and sliding bar, by which the depression of the foot lever is made to actuate the several levers, and the cam, made to lift the lever, and thus operate the turning bar, and with the guage bars, and thus set the log, and at the same operation elevate the foot lever and engage the reaching arm, with the rag wheel, to feed the carriage forward as described and represented.

2nd, I also claim, the combination of the upright guage turning bars, with the horizontal weighted turning bar, holding bars (two,) and eccentrics, (two) thereon, by which the log is set simultaneously at both ends, and the slides (two,) prevented from moving during the operation of sawing by the holding bars, as described and set forth.

3rd, I also claim, the arrangement of the shaft and pinion, for engaging with the rack of the carriage simultaneously with the descent of the foot lever, for winding up a cord and weight, for relieving the tightening lever from the band, and unwinding the same with the ascent of the foot lever, after the setting of the log, and gigging back of the carriage to give motion to the crank shaft, as described and set forth.

To A. Deitz, of New York, N. Y., for improvement in Harness Hames.

I claim, firstly, curving or inclining forward the upper and lower parts of the back or drawing surface and the inner projecting edge of the hame, substantially in the manner and for the purpose herein described.

Secondly, the stock of the draught iron for securing the same to the hame by means of the shaft of the breast ring passing through the said stock of the draught iron and riveted to the hame as described.

Thirdly, the hook studs, for receiving the straps which secure the upper ends of the hames together when on the horse, so as to allow the straps to be easly shifted, constructed in the manner described or in any other way substanally the same.

To S. F. Emerson, of Canaan, Ohio, for improved Atmospheric Churn.

I claim the combination of the dasher with the stationary inclined air channels on the churn tub, the two being made arranged, and operating, substantially as herein set forth.

Steven Everett, of Biddeford, Me., for improvement in Temples used ih weaving double cloth.

I claim the combination of the jointed rods with the wheels or pulleys at the ends of the rods.

[Continued on page 234.]

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TO CORRESPONDENTS.

"P. L. S., of N. Y."—We can see no difference between your propeller and the one on page 88, Sci. Am.

"A. C., of Mass."—A foreigner, if he has declared his intentions, can safely buy and sell real estate.

"T. L. J., of Ohio."—The law punishes by fine the person who uses another man's patent. To prove the theft, who can. This is a peculiar question. Look at it again.

"S. V. R. A., of Wis."—A paddle-wheel exactly like the one you have represented, was invented, and a patent applied for, about 7 months ago, and it is now on one of the boats in New York.

"C. A. F., of Ind."—Mr. Pike has attended to your request..

"M. S., of Va."—We published the process of Tempering in Vol. 3 of the Sci. Am., to which you are referred. J. Stewart, 109 Elm street, N. Y., can furnish such a lathe as you want. You had better address him.

"C. H. C., of Boston."—An improvement in the manufacture of bromine has been patented, in which three novel points are presented :—First, a new kind of retort, composed of earthenware and coke; second, using the bittern as a bath for distilling the bromine; and thirdly, the employment of a luting composed of pipe clay and bittern.

"C. S. B., of Geo."—Your letter has been handed over to responsible parties for attention.

"S. C. T., of Geo."—We have been unable to find such a drill as you want; we formerly kept them for sale. Your letter has been handed to Mr. Hill for further attention.

"J. A. P., of Vt."—You could not expect us to travel fifteen miles in order to obtain the information you desire, and we could not do it in any other way. What is the reason you do not write to the parties, and not trouble us with it; our time is certainly worth something, besides, if we should go out there it would cost us considerable. The owners would furnish a drawing, probably, but they would charge for it and expect you to pay postage.

"A. B. D., of Vt."—Your Countersink appears to be new, useful and patentable, but so far as it regards its pecuniary value, you are, perhaps, the best judge.

"S. M., of Ia."—We have never seen Mr. R.'s invention, but have an opinion that yours is similar in principle.

"M. H., Jr., of Pa."—An Alarm Lock, such as you speak of, is not new; you might obtain a patent for one if it is different from all others.

"F. & E., of Ill."—We have referred your letter to a steel house for attention.

"C. H. W., of Ill."—We should not think the Alcott Lathe would answer your purpose, in fact, we know it would not. You want one of Blanchard's for turning irregular forms.—Address A. R. Carter, Newark, N. J. $2 received.

"H. A. M., of Tenn."—Yours came safe and has been attended to.

"J. S., of Ind."—The claim which you desired us to adopt in place of those attached to your specifications have been considered, but will cover too much ground to be substituted. If we should add all that you suggest it would be likely to cause your whole application to be rejected. The specification and drawings were sent to the Patent Office last Monday.

"P. W. M., of Tenn."—Your Camera Lucida has been shipped to the care of your agents at New Orleans.

"E. F. P., of Cleveland, O."—For the fine list of subscribers received on the 9th, we have credited you another year's subscription, gratis.

"A. C., of Mass."—The model of your planing machines was returned to you by express last Saturday. The expense of preparing your application for a patent will cost you $25; $30 is the amount of the patent fee. We think your invention a remarkably good one.

"A. C. B., of N. C."—A copy of Mahan's work and the back Nos. of Holden's Magazine were shipped to your address last Saturday, per schr. "Alonzo."

"A. & W. B. of Ill., and J. M. B. of N. Y."—We are suprised that you do not make further provisions for having your applications filed at the Patent Office. "Delays are dangerous," sometimes.

"G. S., of M D."—Your friends can be furnished with back numbers of the present Volum if they desire them.

"J. P. D., of Texas."—Your order for a Camera Lucida was rec'ed yesterday (April 9) and was shipped with a copy of Ewbank's Hydraulic's this day, (April 10th).

"J. R. C., of N. Y."—Yours has just come to hand. See next week.

"J. P. P., or Ala."—Yours will be noticed next week.

"A. W. D., of N. Y."—We know of no wheel constructed like yours, but it does not strike us favorably. The candle mould is good, new and patentable, we believe.

"C. C. K., of N. Y."—We cannot give you the information desired at present. Should have been happy to do so.

In consequence of the absence of the Corresponding Editor of this paper, several letters must remain unanswered until his return, which will be in the course of a few days. Our friends will please bear with the delay.

The specifications and drawings of J. S., of Ind.; S. H. S., of O.; L. S. C., of O.; C. & D., of Mass., and G. S. T., of N. C.—were forwarded to the Patent Office with fees last Tuesday.

Money received on account of Patent Office business, since April 3, 1850 :—

J. G. G., of Boston, $30; A. McK., of N. Y., $30; G. F., of N. C., $50; L. S. C., of O. $30; S. H. S., of O., $22; C. & D., of Mass., $5; N. B., of Mo., $43; A. S. L., of N. Y., $10, and R. G. F., of Texas, $60.

Camera Lucida.

All those who have ordered Camera Lucidas are informed that their orders have been filled, and the article shipped as each directed.

We have a new and large supply of Cameras on hand now, and shall endeavor not to be out of them again. Price $6, and boxed for shipping gratis.

Back Volumes Scientific American.

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28 5t * Liege, Belgium, January 1850.

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He has also constantly on hand a full assortment of Leather Belting, revetted, stretched, and cemented, of all sizes, made from the best material, and in the best manner, warranted equal, if not superior to any made in this country, and at prices which must be satisfactory to those wishing a superior article. He is also agent for the sale of Cotton and Woolen Machinery of the most improved kinds. Those favoring him with a call will be satisfied, both in regard to quality and price. P. A. LEONARD, 66 Beaver st.
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SASH AND BLIND MACHINE—Patented by Jesse Leavens, of Springfield, Mass., is the best Sash and Blind Machine now in use. The Machine cost $300 at the shop where they are made, near Springfield—extra charge for the right of using. The machine does all to a Window Sash and Blind except putting them together. Orders from abroad will be promptly attended to, by addressing JESSE LEAVENS, Palmer Depot, Mass. 22 20t*

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m12 tf Patent Journal Office.

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Scientific Museum.

For the Scientific American.

Tanning--Practical Remarks.

(Continued from page 232.)

It is very important to have a fine grain upon the leather, when finished, to please the eye as well as the hand ; attention to the suggestions which follow will greatly improve the appearance and quality of the leather. It should be scrubbed thoroughly in clean water, when first taken out, before exposure to the air. Formerly this was done by hand—a laborious operation, seldom effectual. It is now done by a machine. A cylinder of wood four and a half feet long, twelve in diameter, with a wrought iron shaft secured to a stout frame and geered to run 4 to 600 per minute, with three rows of stiff brushes inlaid on the surface, breaking joints with each other. Another frame hung before the cylinder by bolts through the side pieces, with a four inch roller of wood at the top, and an apron below, raised at the pleasure of the operator,—a lead pipe perforated with small holes on one side, placed over the cylinder, allows a stream of water to flow on to the face of the leather, as it is passed over the roller and before the brushes. The sides drop at the feet of the operator, when they are changed and once more put through the machine the other face being brought against the brushes as before, cleaning both grain and flesh thoroughly. They are passed into another vat of clean water—rinsed and drawn out and spread in a pile at full length, the flesh side up, the backs all one way, where they are allowed to lay and drain over night.

A light dressing of tanners oil is rubbed over every part of the flesh, with a woolen cloth, and the side shifted to another pile, with the grain up. Enough oil for the purpose is imparted to the grain by the contact. The following morning the woolen cloths are passed over the whole grain dry, the sides are wheeled to the drying loft, usually the second story or garret over the yard, where they are hung on poles, without touching each other. This apartment is closed against the light and air, until the edges begin to dry, when more or less air is admitted, as is the atmosphere abroad, or the sides are removed to the rolling loft and hung up by one end, on hooks or nails, where the air circulates freely. The oil being applied in small quantity, when the leather is wet, principally affects the surface, checks rapid drying, leaving the leather pliable and fair, while, without this application, it is often darkened, and sometimes brittle, when strong liquors have been used. As the sides become dry they are gathered and piled upon a platform, erected a few inches above the floor in the rolling loft, flesh up. They are springled with clean water by a common broom, on both side, (as a laundress sprinkles her clothes before ironing) and laid in a snug pile to temper over night, the parcel being covered with a sail cloth, or they are packed into a box of common rough boards, large enough to receive them spread and covered over until morning, when they are in order for rolling—which we shall describe in our next.

The Works of Science.

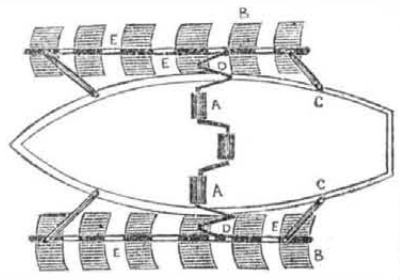
There is a general confidence in the mighty power of science as a wonder-worker, applying the inventions to objects of practical utility. Unless a new discovery is good for something, it is good for *nothing*. Gutta Percha would be valueless if it could not be moulded into tubes, and a thousand other things of practical benefit. Cullodion is used for healing wounds, and gun cotton for blasting rocks. Chemistry scours and dyes, bakes, brews, cooks and compounds drugs with contented composure. Electricity leaves her thunderbolt in the sky, and, like Mercury dismissed from Olympus, acts as a letter carrier and message boy. Even the mysterious magnetism, which once seemed a living principle to quiver in the compass needle, is unclothed of mystery, and set to driving turning lathes. The public perceives all this, and has unlimited faith in man's power to conquer nature. The credulity which formerly fell upon unicorns, phœnixes, mermaids, vampires, krakens, pestilential comets, fairies, ghosts, witches, charms, spectres, curses, universal remedies, pactions with Satan, and the like, now tampers with chemistry, electricity and magnetism, as it once did with the invisible world. Shoes of swiftness, seven league boots and Fortunatus's wishing caps, are banished from the nursery ; but an electro-magnetic steam fire balloon, which will cleave the air like a thunderbolt, and go as straight to its destination as the crow flies, is an invention which many hope to see realized, before railways are quite worn to pieces. We can harness the lightning easier than the human mind. Who has been able to limit the constructive powers of man ? The Chinese have a fine proverb, "Nothing under heaven is impossible to man, if he has only resolution of purpose."

History of Propellers and Steam Navigation.

[Continued from page 232.]

THE WINGED BOAT.

FIG. 34.



Some of the most extraordinary inventions have burst upon the world, astonishing nobody but their projectors, except it may be surprise at their futility, instead of utility. One man imagines that the wings of birds are the grand subjects for copying after in works of art, to propel balloons, and another imagines that the fins or tails of *fishes* are the true forms to copy after for propellers in water. But as balloons are not eagles, neither are steamboats sharks, whales or dolphins. Who would have thought, however, that wings were the best appendages for a steamboat, because they are the best for ærial locomotion. Nevertheless, here we have them. The invention is now 30 years old, and does credit to the name of Mr. Dixon Vallans.

A A is the crank; B B are the wings ; C C are the arms, which have moving joints ; D D are the shafts, which give motion from the crank to the wings; E E E E are the leaves or feathers of the wings, which, by the forward motion of the crank, folds nearly close to the wing; and by the backward motion folds back, and forms a strong pressure against the water; and by that means impels the boat forward with great velocity. The feathers may be either of hard wood or sheetiron, six or eight inches broad, and one foot six inches or two feet long, or they may be made any size according to the size of the vessel.

FIG. 35.

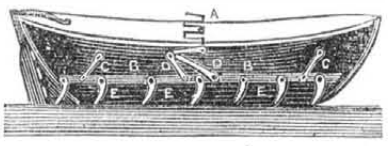


Figure 1 is a horizontal view. Fig. 2 is a side view. The same letters refer to like parts.

When this invention was first brought out, it was to make a boat run three times faster than with paddle wheels, but it never did it. It affords a useful lesson for others, and not a small number either, for inventions for the same purpose, less plausible than this, have been brought forward frequently since the above was first brought into notice.

Potatoes.

MESSRS. EDITORS—As every thing connected with science and usefulness worthy of a place, finds the same in your widely extended journal, I propose to give a few hints by which the disease of this root may be prevented. Now is the seed time, and farmers may take immediate advantage of this plan. All vegetation deterioriate and change from lapse of time, some kinds sooner than others, particularly where the soil is of a nature infavorable to the growth. This is sometimes assisted by the application of manure, inapplicable to the wants of the produce, 1st, It is proposed to plant whole tubers from the 3rd or 4th year from the seed; the practice of cutting them, hastens the change, and does not afford the nourishment nature requires.

2nd, They contain, among other ingredients, a large proportion of magnesia, and they will not attain perfection unless this substance be in the soil or applied as manure. Bran, urine and epsom salts, contains this substance, and are therefore useful.

3rd. After the plants shall have arrived to six or nine inches above the soil then pinch off half an inch of each twig, and repeat this operation at the end of 10 or 11 weeks from planting, no matter at what time of the day. This method checks the transformation by the leaves and increases the power of the roots.

4th, If the above has not been done to the crop, the amount of produce may be much augmented by taking off the flowers as soon as they appear ; this increases the crop, as they are prevented from forming their seed.

The third position is a discovery of Dr. Klotzsch, presented to the King of Prussia, and was tried in 1845-6-7, with complete success. Should this prove true by extended experience, after three years' trial, he is to receive $2,000 remuneration from the government. J. C,

Evaporation from the Thames.

Upon Mr. Glaisher's estimate, 678,505 gallons evaporate from an acre of water in a year, which is at the rate of 1,857.6 gallons daily. The bed of the Thames, in London, is estimated approximately at 2,245 acres, consequently 4,170,000 gallons are raised from the Thames, on an average, daily through the year. The quantity evaporated at low water is, perhaps, much less than this ; on the other hand, the evaporation in summer is more active than in winter; and the proportion of decomposing organic matter in the water, and on the banks exposed to evaporation, is greater at low than at high water. Upon the whole, it is probable that in summer four million gallons, or about 900 tons of water are raised from the polluted Thames daily, and discharged into the atmosphere which is breathed by the inhabitants of London.

To Drive Away Rats.

This may be done by stuffing their holes after the following manner, which will banish them away so that they will not return while the taste or smell remains : take one pound of common tar, half an ounce of pearl ash, as much oil of vitriol as will ferment a handful of common salt ; mix them all together, spread the mixture thick on brown paper, and lay a piece in the bottom of the holes for them to walk on ; then stuff some into the holes and fill them up with lime. Or another way : get a paper bagfull of human hair, from a barber's shop, and stuff the rat holes with it—they will never appear there again.—[Gardener's Chronicle.

[This plan can be easly tested, a thing which we like to do with receipts, when the experiments are not too expensive. We have not tested the above but give it for what it is worth, as the periodical to which it is credited is very respectable.

Cure for a Ringworm

The editor of the Plough, the Loom and the Anvil furnishes the following recipe, which he says is infallible for the cure of ringworm :

Heat a shovel to a bright red—cover it with grains of Indian corn—press them with a cold flat-iron. They will burn to a coal and exude an oil on the surface of the flat-iron, with which rub the ring worm, and after one or two applications it will be *kilt* as dead as Julius Cæsar.

Sulphate of Silver.

This sulphate is best made by adding subcarbonate of soda to a nitric solution of silver, to throw down the carbonate of silver then dissolving this carbonate in weak sulphuric acid.

It is used to ascertain the presence of muriatic acid in mineral waters.

Acetate of Silver.

Is formed by dissolving in hot acetic acid the carbonate of silver, which is precipitated, when subcarbonate of soda is added to the nitric solution of silver.

It is also used to ascertain the presence of muriatic acid in mineral waters.

A Singular Cure of Disease in the Spine.

The Glasgow Examiner relates a case, endorsed by the most respectable authority, of a young woman, named Jane Carrick, who had been a confirmed paralytic confined to her bed for 8 years, that has been completely cured by the application of air vessels, on the principle of cupping on the back (without extracting blood) and taking no medicine. Her spine has been restored to its proper position, and by two weeks' treatment was enabled to walk about. Experiments can easily be made to test the correctness of this mode of treatment for a disease which generally baffles the skill of our most eminent physicians. If there is any truth in the statement, it cannot be too widely known, nor too soon.

LITERARY NOTICES.

DRAMATIC WORKS OF SHAKSPEARE.—No. 13 of the Dramatic Works of Shakespeare, by Messrs. Phillips, Sampson & Co., Boston, contains the Comedy of "Taming the Shrew," with an engraving of Katherine. The numbers of this beautiful edition are for sale by Dewitt & Davenport, Tribune Buildings.

NEW YORK LEGAL REGISTER.—This is the title of a very useful pamphlet, published by Willard Felt, 191 Pearl street, N. Y. It contains a sketch of all the principal Courts of the State—a list of Senators, Judges, Surrogates, District Attorneys, Sheriffs, County Clerks, &c., and the terms of the Supreme Court for 1850-51.

JOURNAL OF THE FRANKLIN INSTITUTE.—This worthy Magazine for March contains an excellent article on American Engineering and Locomotives, copied from the Glasgow Practical Mechanics Journal It gives a full description of the "Mohawk," built by Mr. McQueen, for the Albany and Schenectady Railroad.

A NEW ROMANCE.—We have received from the publisher, F. Gleason, Boston, a new and brilliant tale, entitled, "The Mistake of a Lifetime : or, The Robber of the Rhine Valley." It is a story of the mysteries of the shore and the vicissitudes of the sea—embracing in its field an almost boundless extent of romance—depicting with a faithful and vivid pen the peculiarities of robbery life, piracies upon the high sea, the influences of the gaming table, the power of jealousy, the absorbing interest of mystery, and the power of love and beauty. It is for sale at all the periodical depots and book-stores, at the extraordinary low price of 12 1-2 cents, S. French, 151 Nassau st., (late 293 Broadway) N. Y. is wholesale Agent for the above work. *

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